

Fig. 1
(Prior Art)

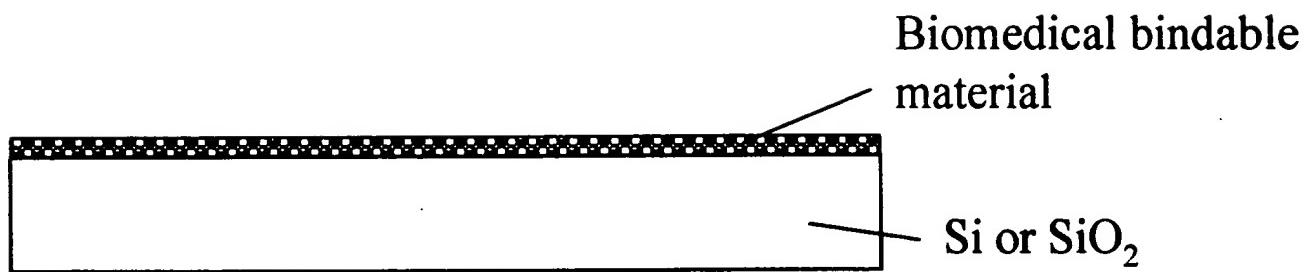


Fig. 2A-1 (Prior Art)

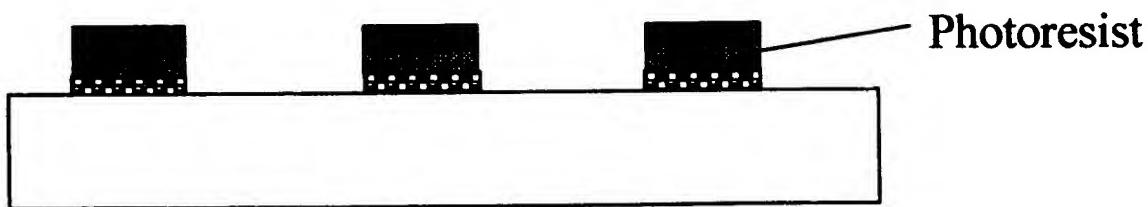


Fig. 2A-2 (Prior Art)

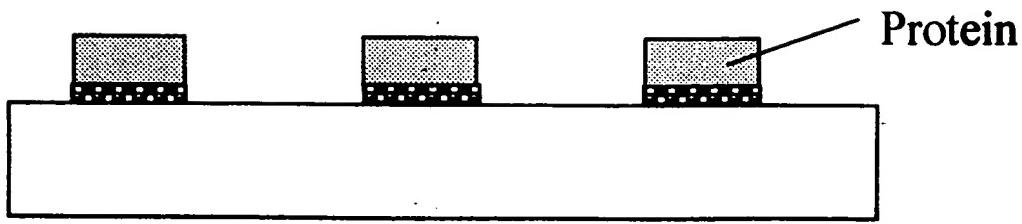


Fig. 2A-3 (Prior Art)

प्र० २८-१ प्र० २८-२ प्र० २८-३ प्र० २८-४

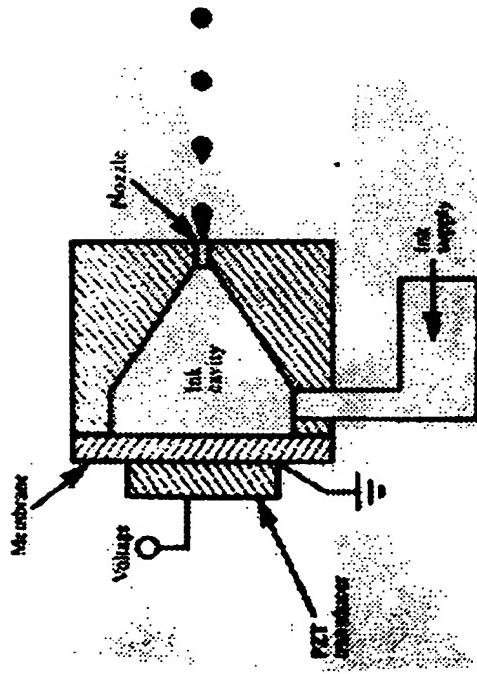


Fig. 28-1 (prior Art)

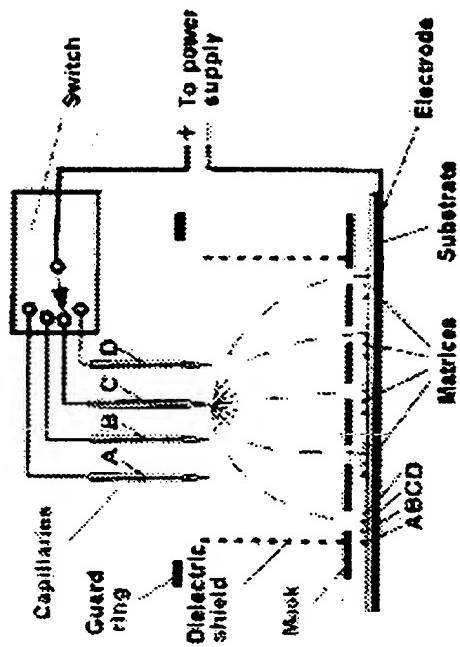


Fig. 28-3 (prior Art)

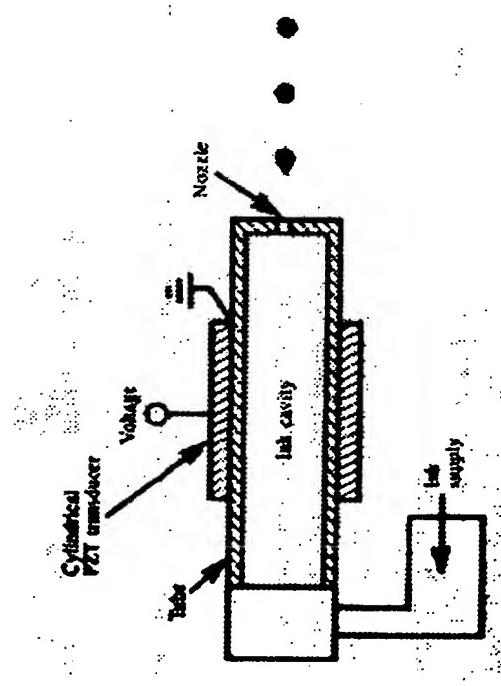


Fig. 28-2 (prior Art)

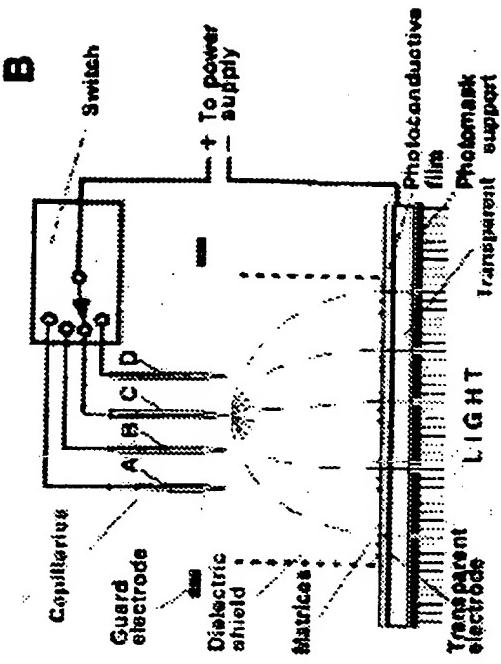
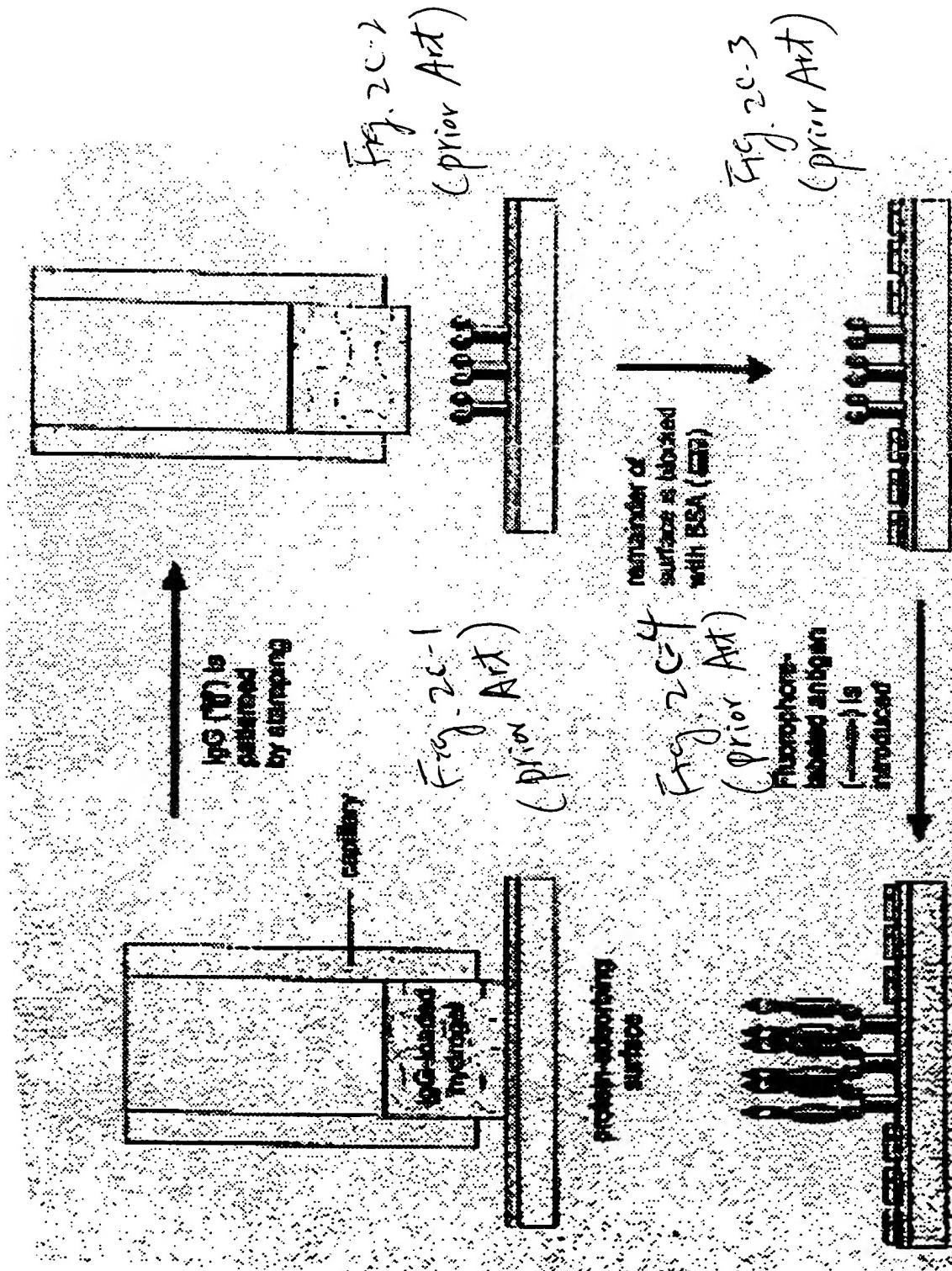


Fig. 28-4 (prior Art)

ફોટો કોર્સ નાની પ્રશ્નોની જવાબ



ફોર્મ માટે એવી રીતું કરી શકતું હૈ

Fig. 2D-a (prior Art)
One type protein

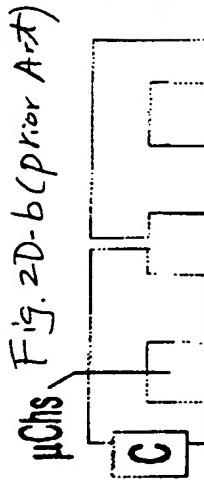
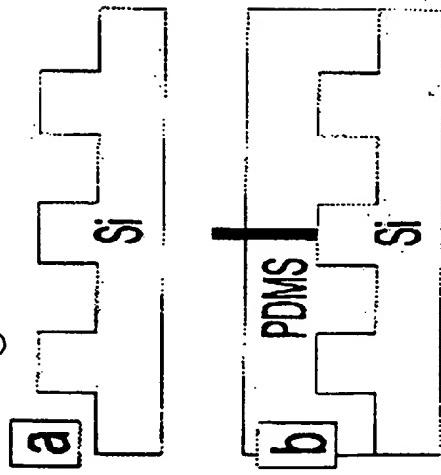
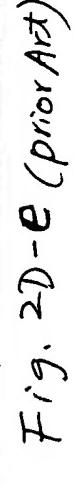
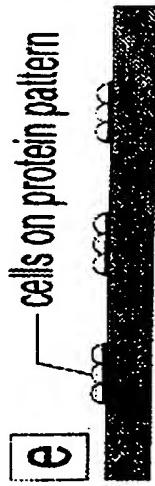


Fig. 2D-d (prior Art)

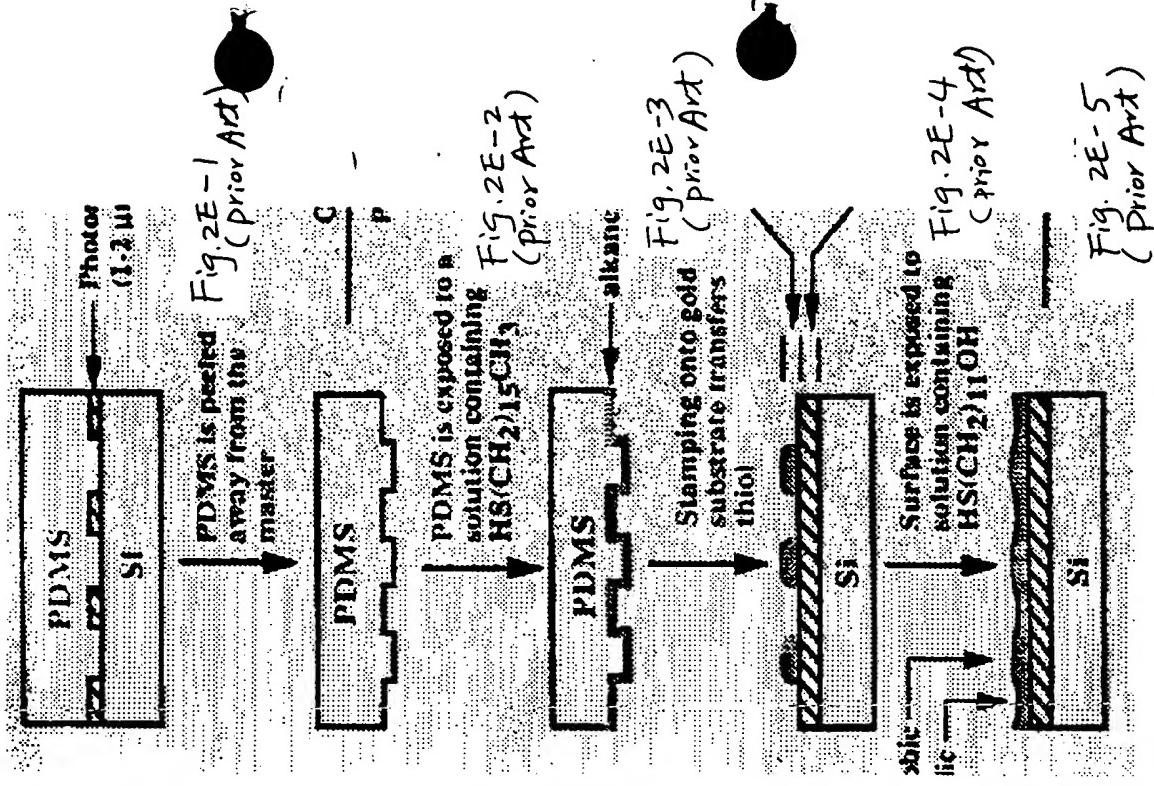


Surface is exposed to solution containing $\text{HS}(\text{CH}_2)_1\text{SiH}_3$

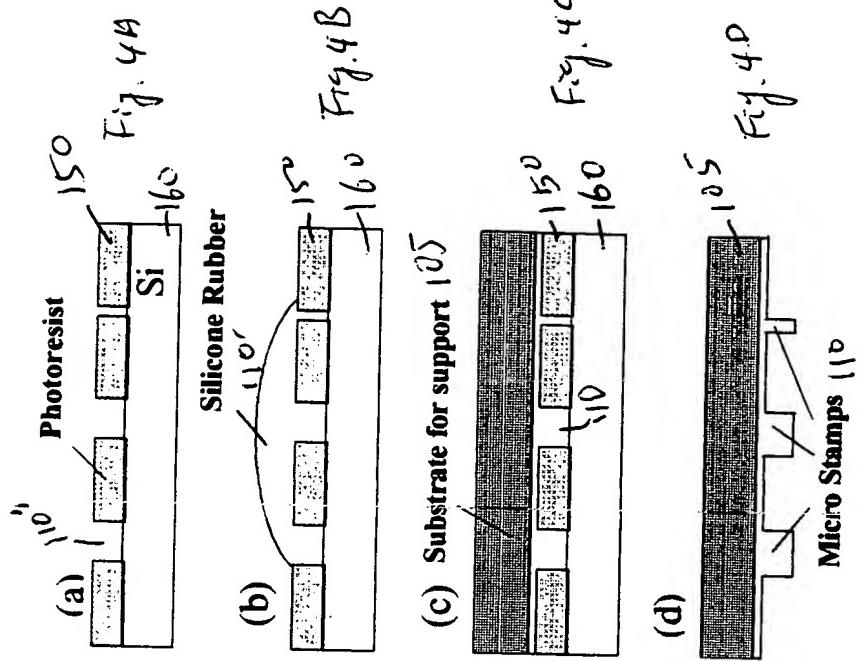
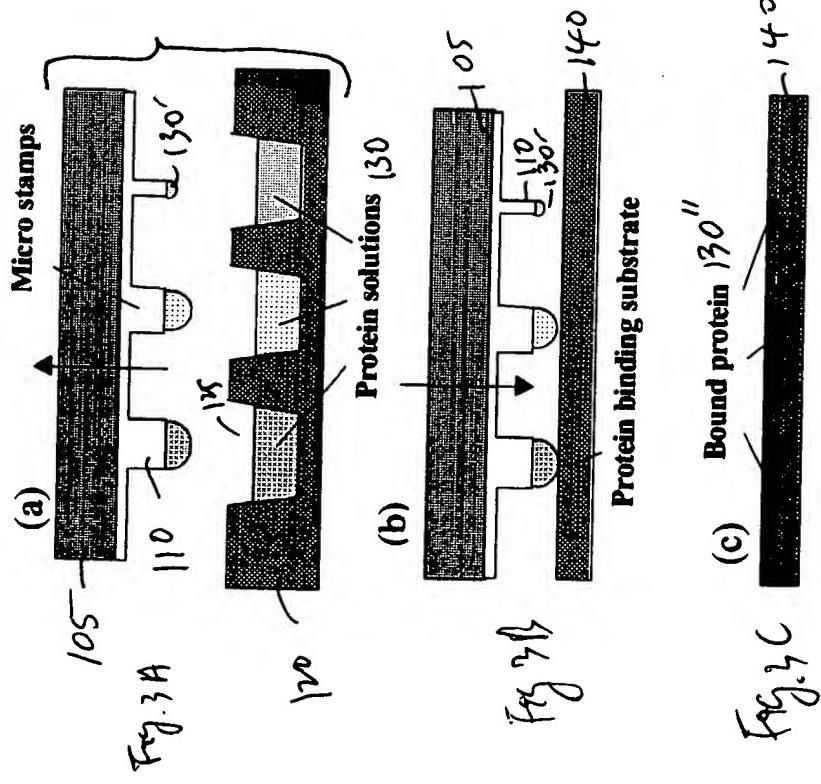
Fig. 2E-4 (prior Art)



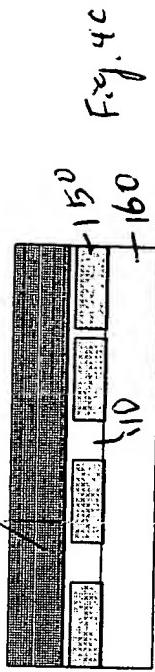
Fig. 2E-5 (prior Art)



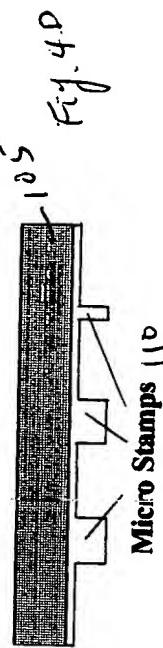
બુદ્ધિ માનવ સ્વરૂપ "ત્રણ વિના કરી રહે છે એવી એવી



(c) Substrate for support 105



(d)



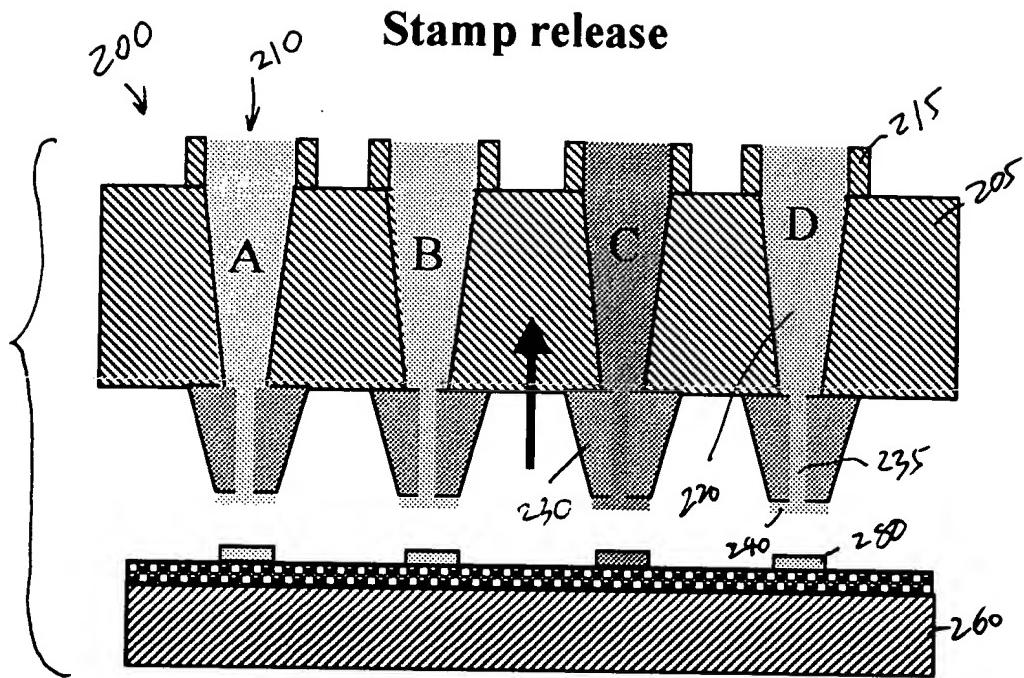
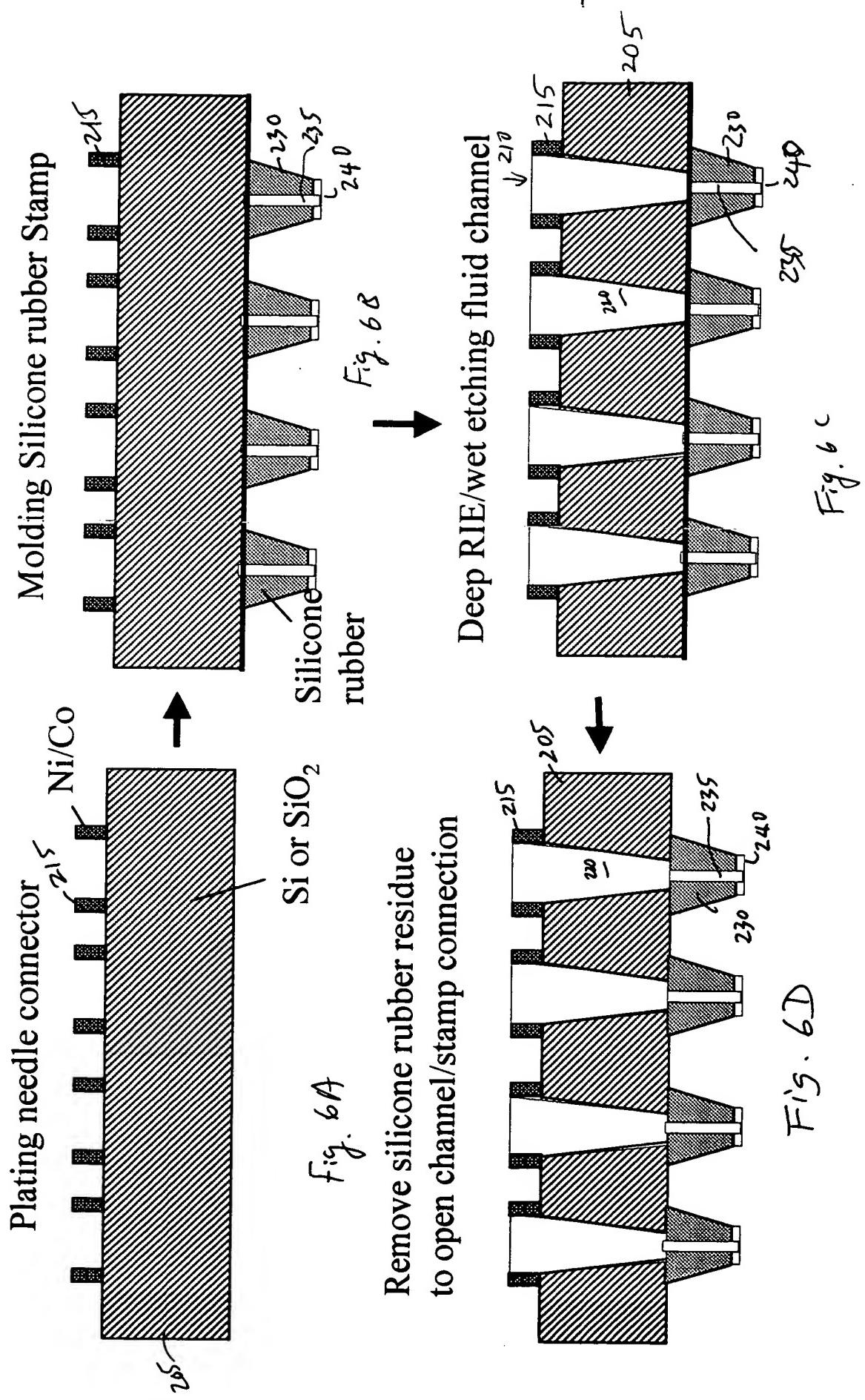
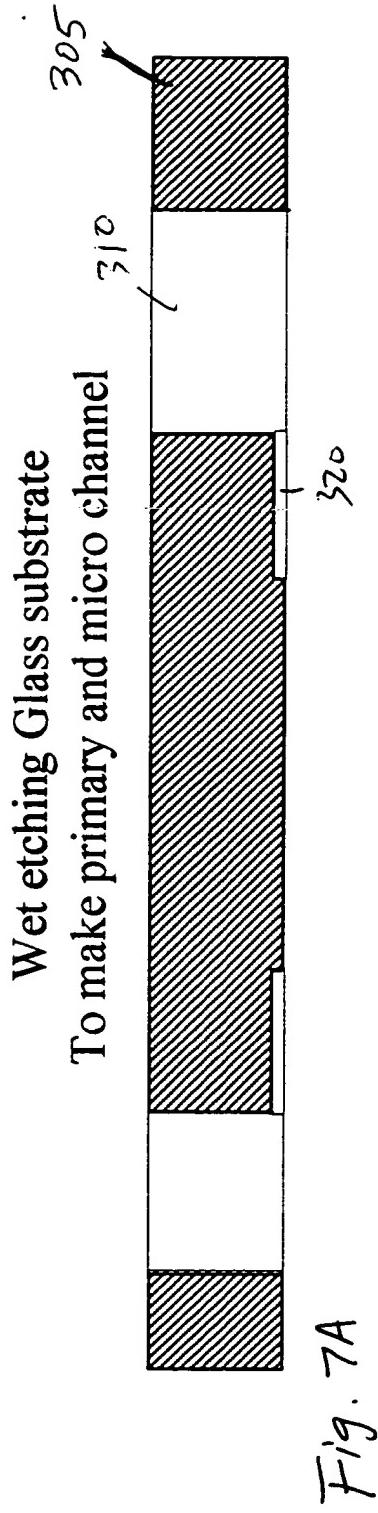


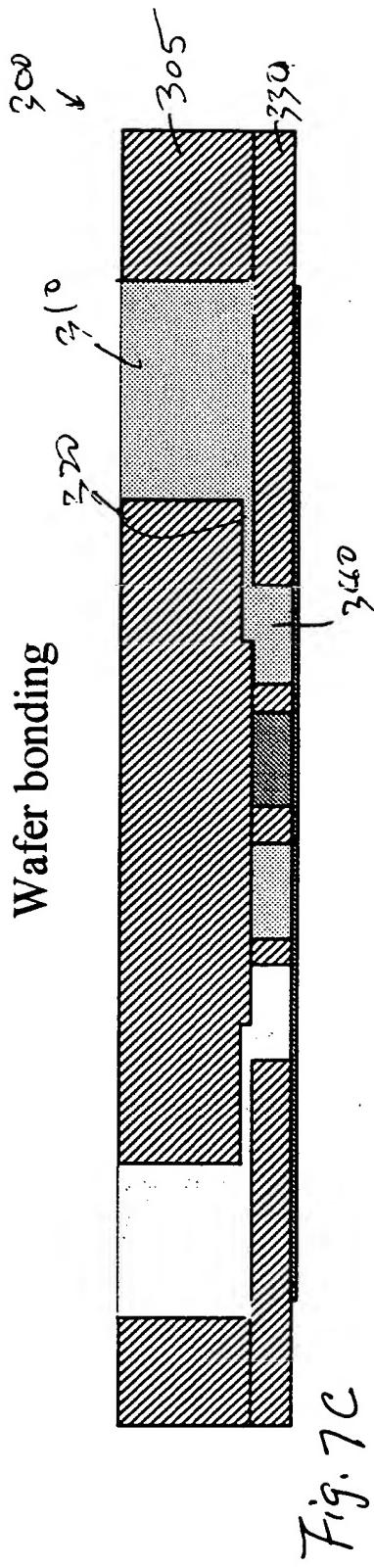
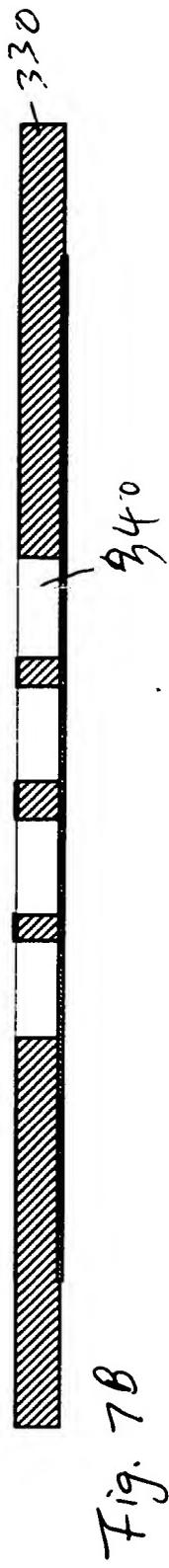
Fig. 5



“கால்கால் கூடுதல்” தமிழ்நாட்டு பொருள்கள்



Silicone rubber molding silicon substrate
Deep RIE secondary reservoir



“ବ୍ୟାକୁଲିନ୍ ଏକ୍ସାପ୍ଲାନ୍” “ମାତ୍ରା ପରିପାଳନ ପରିକାଳିକା

Electrode, sensor, heater ୩୮୦

Fig. ୮A

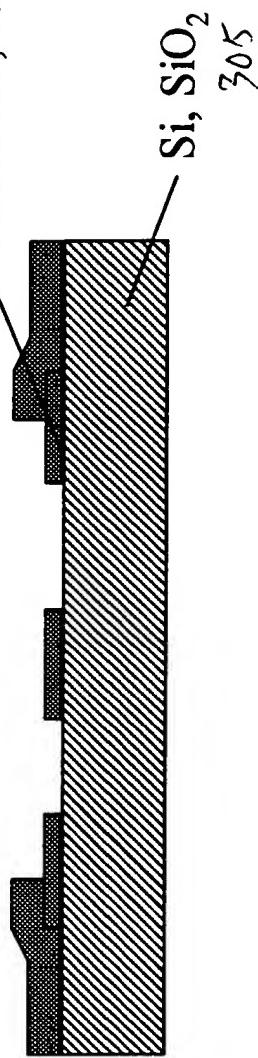
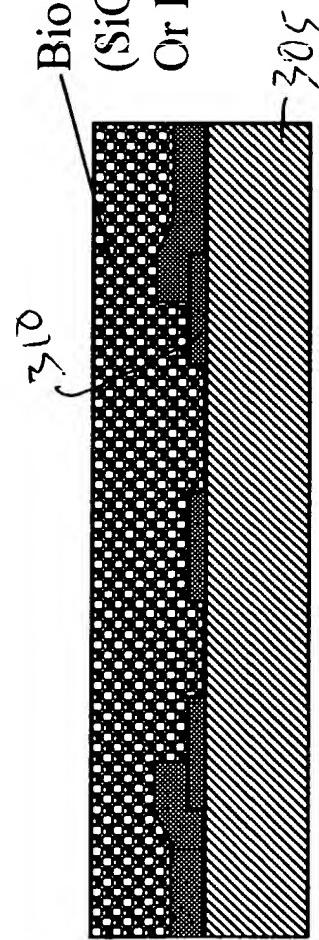


Fig. ୮B

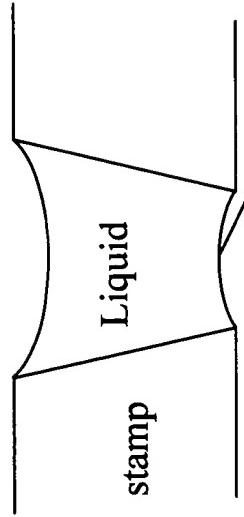
Bio bindable material
(SiO₂, PVDF, Nilon..)
Or Bio gel.
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New design concepts

A. Liquid filling into stamp

(1) hydrophilic surface inside channel (easy to fill in, but the bottom meniscus of liquid is concave upward which is not desired)



Not easy to contact with reaction substrate

Fig. 9 A

(3) hybrid surface inside channel

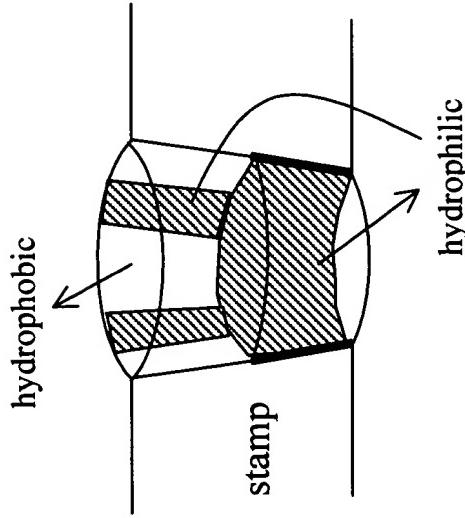
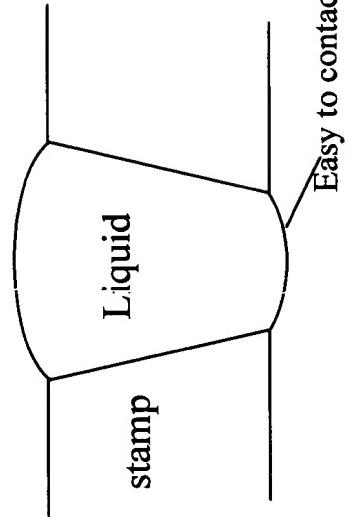


Fig. 9 C

(2) hydrophobic surface inside channel (liquid hard to fill in, however, the bottom meniscus of liquid is what we need; concave downward)



Easy to contact with reaction substrate

Fig. 9 B

partial hydrophilic and hydrophobic surface as the left side; or the surface can be switched into hydrophilic or hydrophobic as desired

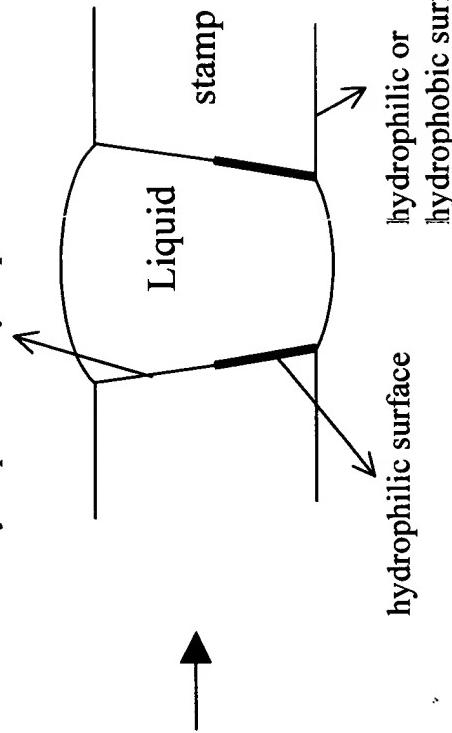
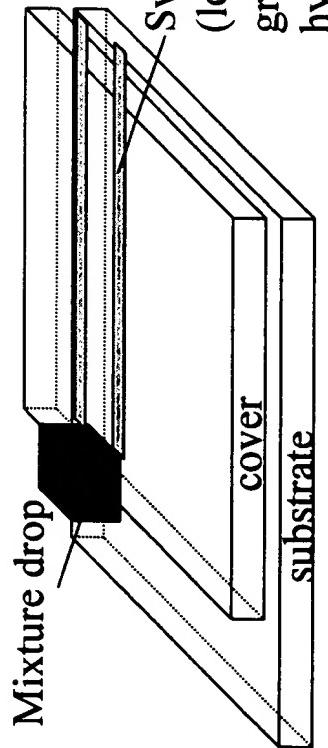


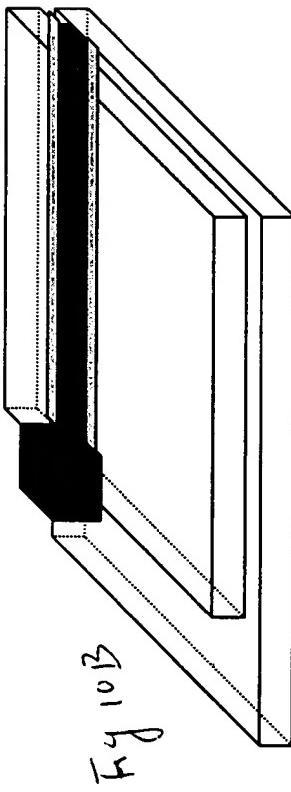
Fig. 9 D

New idea: 2 D micro Separation

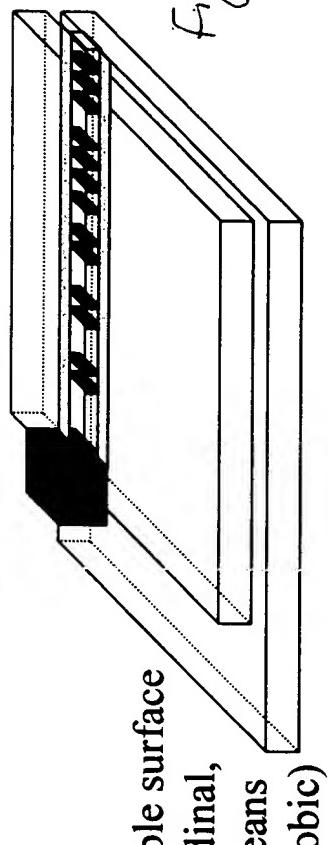
(a) Blood or bio-reagent mixture drop



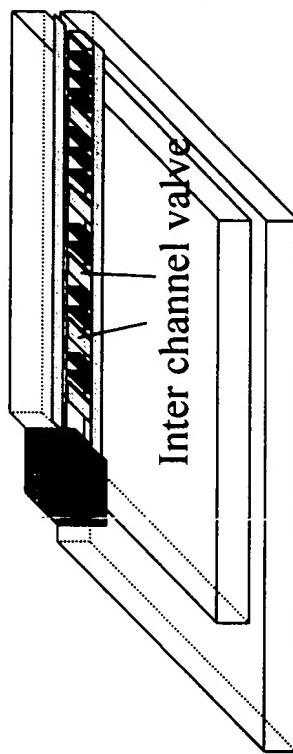
(b) Liquid mixture fill in by surface tension



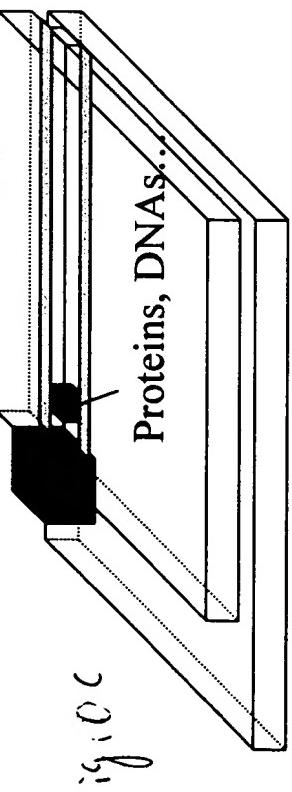
(d) Proteins, DNA... coarse separation by capillary electrophoresis



(e) Mixture droplet separation



(f) Liquid fill into vertical channels and Fine separation by capillary electrophoresis



**Micro protein arrays
on chip surface**

**(a). Dry off and take
out the cover**

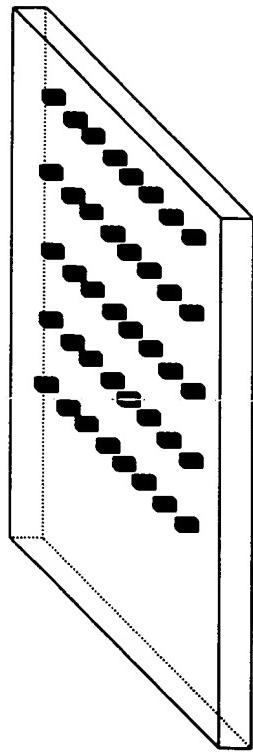


Fig 11 A

Fig 11 B

For direct analysis

**Micro protein arrays
inside micro chambers**

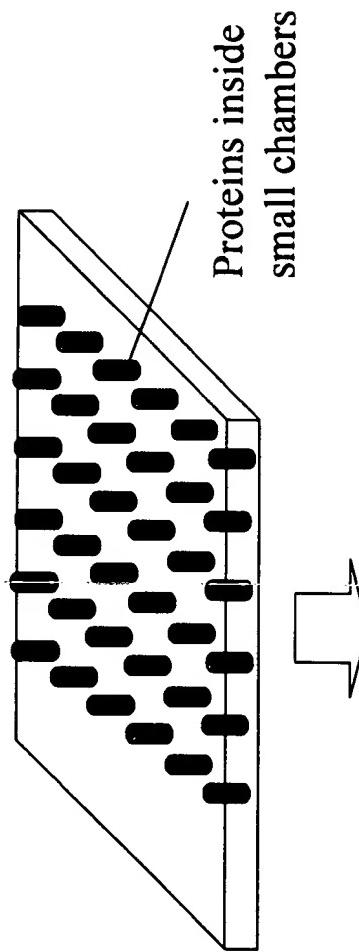


Fig 11 C
**Directly connected to micro stamp
for microfilling process**
(pitch is exactly the same as on the stamp)

**Proteins inside
small chambers**